

INTEQ



INTEQ

2105 Market Street
Midland, Texas 79703
Tel. (915) 694-9517
Fax (915) 694-5648

SURVEY CERTIFICATION SHEET

STATE OF TEXAS
COUNTY OF MIDLAND

I, Damon Cadena, certify that; I am employed by Baker Hughes INTEQ; that I did on the day(s) of 4/24/02 to 4/24/02 conduct or supervise the taking of a Gyroscopic survey from a depth of 0 feet to a depth of 11519 feet; that the data is true, correct, complete and within the limitations of the tool as set forth by Baker Hughes INTEQ; that I am authorized and qualified to make this report; that this survey was conducted at the request of Energen Resources for the West Lovington Strawn Unit #19 Well API No.<unknown> In Lea County, New Mexico; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by Baker Hughes INTEQ.

I, Don Hale, certify that; I am employed by Baker Hughes INTEQ; that I did on the day(s) of 5/3/02 to 6/15/02 conduct or supervise the taking of a MWD survey from a depth of 7334 feet to a depth of 12125 feet; that the data is true, correct, complete and within the limitations of the tool as set forth by Baker Hughes INTEQ; that I am authorized and qualified to make this report; that this survey was conducted at the request of Energen Resources for the West Lovington Strawn Unit #19 Well API No.<unknown> In Lea County, New Mexico; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by Baker Hughes INTEQ.

Damon Cadena
Surveyor

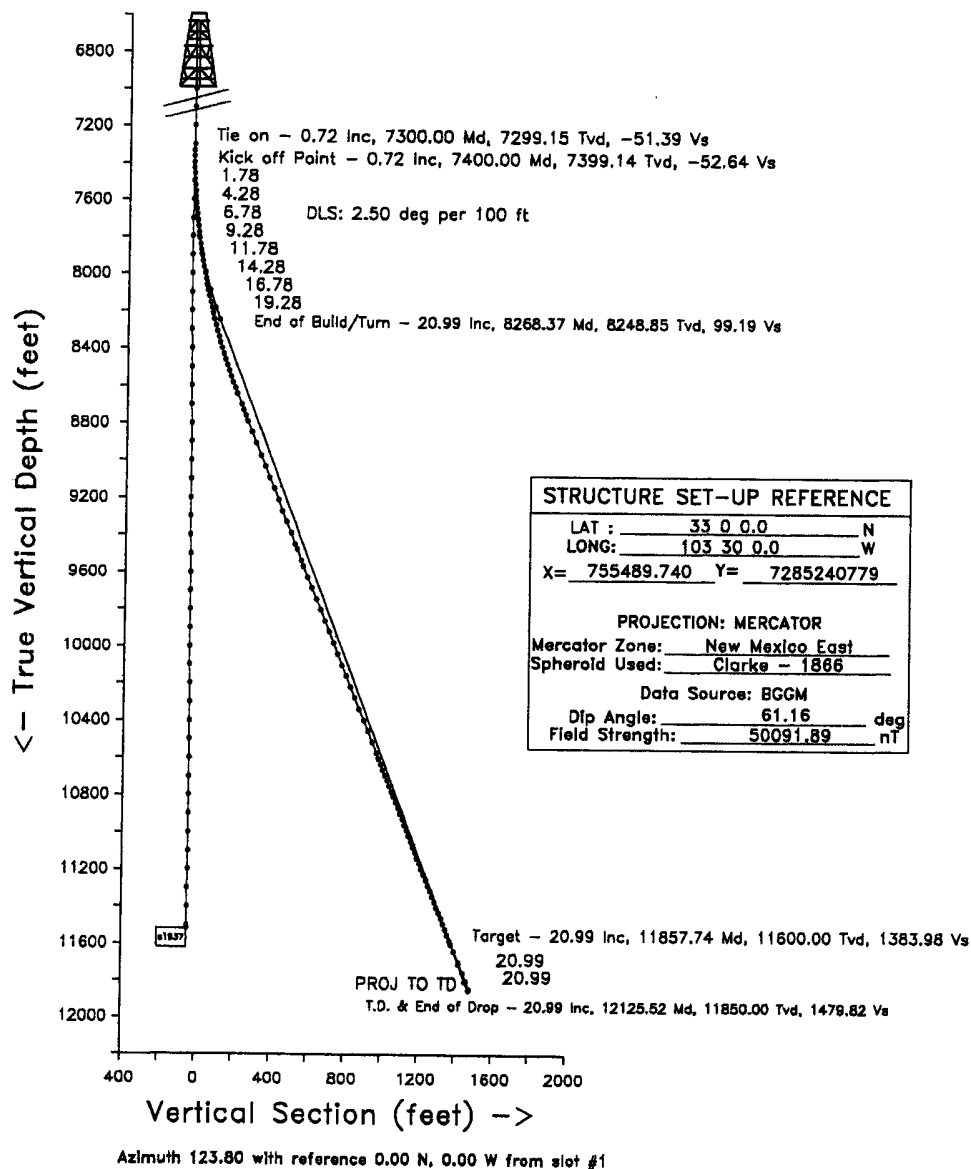
Don Hale
Surveyor

West Lovington Strawn Unit #19
Lea County, New Mexico

22-Apr-2002 (Source: BCGM)
 Magnetic North is 0.09 degrees East of TRUE North
 To correct azimuth from Magnetic to TRUE add 0.09 deg

BAKER HUGHES

INTEQ



STRUCTURE SET-UP REFERENCE			
LAT :	33 0 0.0	N	
LONG:	103 30 0.0	W	
X=	755489.740	Y=	7285240779
PROJECTION: MERCATOR			
Mercator Zone:	New Mexico East		
Spheroid Used:	Clarke - 1866		
Data Source: BCGM			
Dip Angle:	61.16	deg	
Field Strength:	50091.89	nT	

Energen Resources

Structure : WLSU #19

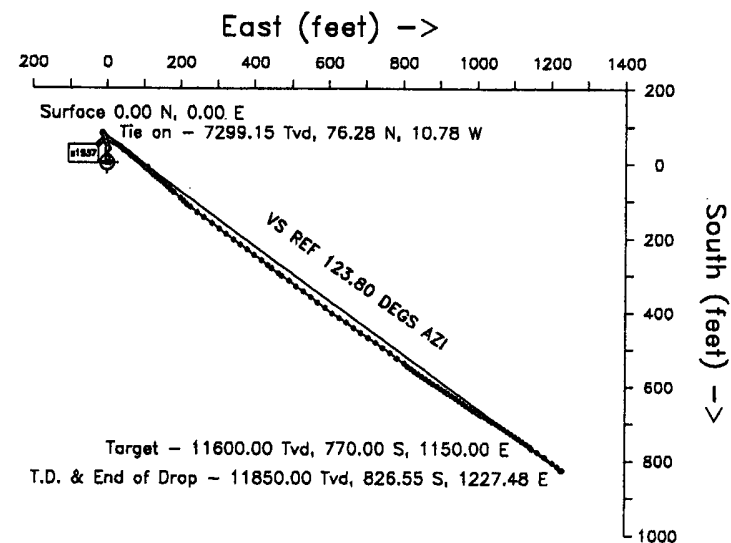
Slot : slot #1

Field : UNKNOWN

Location : LEA COUNTY, NEW MEXICO

WELL PROFILE DATA

Point	MD	Inc	Dir	TVD	North	East	V. Sect	Deg/100
Tie on	7300.00	0.72	312.37	7299.15	76.28	-10.78	-51.39	0.00
KOP	7400.00	0.72	312.37	7399.14	77.13	-11.71	-52.64	0.00
End of Build/Turn	8268.37	20.99	126.12	8248.85	-11.95	111.37	99.19	2.50
Target TARGET TVD	11857.74	20.99	126.12	11600.00	-770.00	1150.00	1383.98	0.00
T.D. & End of Drop	12125.52	20.99	126.12	11850.00	-826.55	1227.48	1479.82	0.00



BOTTOM HOLE LOCATION
 1484.54' ON AZI 123.85 DEGS
 FROM SURFACE LOCATION
 M.D: 12125.00' T.V.D: 11842.94'
 826.83'S, 1232.96'E

Created By kellym
 Date plotted : 20-Jun-2002
 Plot Reference is P1 3DJ RC/SJ .
 Coordinates are in feet reference slot #1.
 True Vertical Depths are reference rotary table.
 wlsu19pva
 --- Baker Hughes INTEQ ---

Energen Resources
WLSU #19

slot #1
UNKNOWN
LEA COUNTY, NEW MEXICO

SURVEY LISTING

by
Baker Hughes INTEQ

Your ref : GYRO
Our ref : svy1937
License :

Date printed : 20-Jun-2002
Date created : 25-Apr-2002
Last revised : 30-May-2002

Field is centred on n33 30 0.000,w103 30 0
Structure is centred on n33 0 0.000,w103 30 0

Slot location is n33 0 0.000,w103 30 0.000
Slot Grid coordinates are N 728524.779, E 755489.740
Slot local coordinates are 0.00 N 0.00 E

Projection type: mercator - New Mexico East (3001), Spheroid: Clarke - 1866

Reference North is True North

Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	RECTANGULAR COORDINATES		Dogleg Deg/100ft	Vert Sect
0.00	0.00	0.00	0.00	0.00 N	0.00 E	0.00	0.00
100.00	0.75	347.80	100.00	0.64 N	0.14 W	0.75	0.64
200.00	0.43	5.55	199.99	1.66 N	0.24 W	0.37	1.66
300.00	0.50	9.37	299.99	2.47 N	0.13 W	0.08	2.47
400.00	0.27	84.63	399.99	2.92 N	0.17 E	0.51	2.92
500.00	0.35	80.23	499.99	3.00 N	0.70 E	0.08	3.00
600.00	0.24	25.04	599.98	3.24 N	1.09 E	0.29	3.24
700.00	0.31	87.99	699.98	3.43 N	1.45 E	0.29	3.43
800.00	0.15	123.96	799.98	3.37 N	1.83 E	0.21	3.37
900.00	0.06	95.69	899.98	3.29 N	1.99 E	0.10	3.29
1000.00	0.13	132.80	999.98	3.21 N	2.12 E	0.09	3.21
1100.00	0.28	74.14	1099.98	3.19 N	2.45 E	0.24	3.19
1200.00	0.22	35.74	1199.98	3.42 N	2.80 E	0.18	3.42
1300.00	0.23	12.00	1299.98	3.78 N	2.96 E	0.10	3.78
1400.00	0.17	1.01	1399.98	4.13 N	3.00 E	0.07	4.13
1500.00	0.26	327.88	1499.98	4.47 N	2.89 E	0.15	4.47
1600.00	0.29	339.18	1599.98	4.90 N	2.68 E	0.06	4.90
1700.00	0.28	347.97	1699.98	5.38 N	2.54 E	0.04	5.38
1800.00	0.69	354.44	1799.97	6.22 N	2.43 E	0.41	6.22
1900.00	1.05	359.02	1899.96	7.73 N	2.35 E	0.37	7.73
2000.00	1.25	357.97	1999.94	9.73 N	2.30 E	0.20	9.73
2100.00	1.39	353.46	2099.91	12.03 N	2.12 E	0.18	12.03
2200.00	1.52	348.51	2199.88	14.53 N	1.72 E	0.18	14.53
2300.00	1.68	342.64	2299.84	17.23 N	1.02 E	0.23	17.23
2400.00	1.72	342.12	2399.80	20.06 N	0.12 E	0.04	20.06
2500.00	1.61	347.32	2499.76	22.86 N	0.65 W	0.19	22.86
2600.00	1.42	3.61	2599.72	25.48 N	0.88 W	0.47	25.48
2700.00	1.46	8.49	2699.69	27.98 N	0.61 W	0.13	27.98
2800.00	1.34	7.07	2799.66	30.41 N	0.28 W	0.13	30.41
2900.00	1.03	5.82	2899.64	32.46 N	0.05 W	0.32	32.46
3000.00	0.69	10.81	2999.63	33.94 N	0.16 E	0.35	33.94
3100.00	0.63	24.51	3099.62	35.03 N	0.50 E	0.17	35.03
3200.00	0.46	0.68	3199.62	35.93 N	0.73 E	0.28	35.93
3300.00	0.23	359.50	3299.61	36.54 N	0.73 E	0.24	36.54
3400.00	0.13	82.21	3399.61	36.75 N	0.84 E	0.25	36.75
3500.00	0.26	100.84	3499.61	36.72 N	1.18 E	0.15	36.72
3600.00	0.29	101.11	3599.61	36.63 N	1.65 E	0.02	36.63
3700.00	0.30	84.16	3699.61	36.61 N	2.16 E	0.09	36.61
3800.00	0.47	93.84	3799.61	36.61 N	2.84 E	0.18	36.61
3900.00	0.37	84.52	3899.61	36.61 N	3.57 E	0.13	36.61
4000.00	0.31	95.59	3999.60	36.62 N	4.16 E	0.09	36.62
4100.00	0.38	140.63	4099.60	36.34 N	4.64 E	0.27	36.34
4200.00	0.41	126.44	4199.60	35.87 N	5.13 E	0.10	35.87
4300.00	0.21	159.44	4299.60	35.49 N	5.48 E	0.26	35.49
4400.00	0.12	227.95	4399.60	35.25 N	5.47 E	0.20	35.25
4500.00	0.13	304.25	4499.60	35.24 N	5.30 E	0.15	35.24
4600.00	0.30	326.33	4599.60	35.52 N	5.06 E	0.19	35.52
4700.00	0.41	314.49	4699.60	35.98 N	4.66 E	0.14	35.98
4800.00	0.50	309.72	4799.59	36.51 N	4.07 E	0.10	36.51
4900.00	0.39	294.03	4899.59	36.93 N	3.43 E	0.16	36.93

All data is in feet unless otherwise stated.
Coordinates from slot #1 and TVD from rotary table.
Bottom hole distance is 55.06 on azimuth 334.07 degrees from wellhead.
Vertical section is from N 0.00 E 0.00 on azimuth 0.00 degrees.
Calculation uses the minimum curvature method.
Presented by Baker Hughes INTEQ

Energen Resources
WLSU #19, slot #1
UNKNOWN, LEA COUNTY, NEW MEXICO

SURVEY LISTING Page 2
Your ref : GYRO
Last revised : 30-May-2002

Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	R E C T A N G U L A R C O O R D I N A T E S		Dogleg Deg/100ft	Vert Sect
5000.00	0.32	335.71	4999.59	37.32 N	3.00 E	0.26	37.32
5100.00	0.52	347.19	5099.58	38.03 N	2.78 E	0.22	38.03
5200.00	0.28	332.35	5199.58	38.69 N	2.57 E	0.26	38.69
5300.00	0.43	320.84	5299.58	39.20 N	2.22 E	0.17	39.20
5400.00	0.84	343.48	5399.57	40.20 N	1.77 E	0.47	40.20
5500.00	1.43	352.17	5499.55	42.14 N	1.39 E	0.61	42.14
5600.00	1.39	344.46	5599.52	44.54 N	0.89 E	0.19	44.54
5700.00	1.41	344.16	5699.49	46.89 N	0.23 E	0.02	46.89
5800.00	1.44	343.74	5799.46	49.28 N	0.45 W	0.03	49.28
5900.00	1.43	340.91	5899.43	51.67 N	1.22 W	0.07	51.67
6000.00	1.50	341.95	5999.40	54.09 N	2.03 W	0.07	54.09
6100.00	1.49	345.95	6099.36	56.60 N	2.75 W	0.10	56.60
6200.00	1.57	352.05	6199.33	59.21 N	3.25 W	0.18	59.21
6300.00	1.52	355.46	6299.29	61.90 N	3.55 W	0.10	61.90
6400.00	1.33	354.90	6399.26	64.38 N	3.76 W	0.20	64.38
6500.00	1.05	345.98	6499.24	66.42 N	4.08 W	0.34	66.42
6600.00	1.01	335.29	6599.22	68.10 N	4.67 W	0.20	68.10
6700.00	1.01	324.48	6699.21	69.62 N	5.55 W	0.19	69.62
6800.00	0.88	326.94	6799.20	70.98 N	6.48 W	0.14	70.98
6900.00	0.73	321.70	6899.19	72.12 N	7.29 W	0.17	72.12
7000.00	0.72	318.65	6999.18	73.09 N	8.10 W	0.04	73.09
7100.00	0.85	316.94	7099.17	74.10 N	9.02 W	0.14	74.10
7200.00	0.83	327.13	7199.16	75.25 N	9.92 W	0.15	75.25
7300.00	0.72	312.37	7299.15	76.28 N	10.78 W	0.22	76.28
7400.00	0.69	312.81	7399.14	77.11 N	11.68 W	0.04	77.11
7500.00	0.54	318.94	7499.14	77.87 N	12.43 W	0.16	77.87
7600.00	0.33	308.49	7599.13	78.41 N	12.97 W	0.22	78.41
7700.00	0.46	332.06	7699.13	78.95 N	13.38 W	0.21	78.95
7800.00	0.39	345.36	7799.13	79.63 N	13.66 W	0.12	79.63
7900.00	0.29	353.06	7899.13	80.21 N	13.77 W	0.11	80.21
8000.00	0.17	33.11	7999.12	80.59 N	13.72 W	0.19	80.59
8100.00	0.13	86.03	8099.12	80.72 N	13.53 W	0.14	80.72
8200.00	0.35	137.81	8199.12	80.50 N	13.21 W	0.29	80.50
8300.00	0.54	128.94	8299.12	79.98 N	12.64 W	0.20	79.98
8400.00	0.41	151.54	8399.12	79.37 N	12.10 W	0.22	79.37
8500.00	0.58	140.40	8499.11	78.67 N	11.61 W	0.20	78.67
8600.00	0.52	142.35	8599.11	77.91 N	11.01 W	0.07	77.91
8700.00	0.58	125.92	8699.10	77.26 N	10.32 W	0.17	77.26
8800.00	0.60	141.33	8799.10	76.54 N	9.57 W	0.16	76.54
8900.00	0.28	173.56	8899.10	75.89 N	9.22 W	0.39	75.89
9000.00	0.43	161.99	8999.09	75.28 N	9.07 W	0.16	75.28
9100.00	0.17	190.38	9099.09	74.78 N	8.98 W	0.29	74.78
9200.00	0.37	184.64	9199.09	74.32 N	9.03 W	0.20	74.32
9300.00	0.28	143.86	9299.09	73.80 N	8.92 W	0.24	73.80
9400.00	0.19	191.59	9399.09	73.44 N	8.80 W	0.21	73.44
9500.00	0.25	185.00	9499.09	73.06 N	8.86 W	0.07	73.06
9600.00	0.30	187.24	9599.09	72.58 N	8.91 W	0.05	72.58
9700.00	0.40	159.48	9699.09	71.99 N	8.82 W	0.19	71.99
9800.00	0.41	191.71	9799.08	71.32 N	8.77 W	0.22	71.32
9900.00	0.49	143.25	9899.08	70.62 N	8.59 W	0.38	70.62

All data is in feet unless otherwise stated.
Coordinates from slot #1 and TVD from rotary table.
Bottom hole distance is 55.06 on azimuth 334.07 degrees from wellhead.
Vertical section is from N 0.00 E 0.00 on azimuth 0.00 degrees.
Calculation uses the minimum curvature method.
Presented by Baker Hughes INTEQ

Energen Resources
WLSU #19, slot #1
UNKNOWN, LEA COUNTY, NEW MEXICO

SURVEY LISTING Page 3
Your ref : GYRO
Last revised : 30-May-2002

Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	R E C T A N G U L A R C O O R D I N A T E S		Dogleg Deg/100ft	Vert Sect
10000.00	0.28	169.03	9999.08	70.03 N	8.28 W	0.27	70.03
10100.00	0.59	158.74	10099.07	69.31 N	8.05 W	0.31	69.31
10200.00	0.51	196.02	10199.07	68.40 N	7.99 W	0.36	68.40
10300.00	0.43	213.18	10299.07	67.66 N	8.32 W	0.16	67.66
10400.00	0.23	244.53	10399.07	67.25 N	8.71 W	0.26	67.25
10500.00	0.27	189.51	10499.06	66.93 N	8.93 W	0.24	66.93
10600.00	0.74	188.13	10599.06	66.06 N	9.06 W	0.47	66.06
10700.00	0.51	208.59	10699.05	65.02 N	9.37 W	0.32	65.02
10800.00	0.71	183.52	10799.05	64.01 N	9.62 W	0.33	64.01
10900.00	0.67	199.48	10899.04	62.84 N	9.85 W	0.19	62.84
11000.00	0.78	212.29	10999.03	61.71 N	10.41 W	0.19	61.71
11100.00	1.56	228.56	11099.01	60.24 N	11.79 W	0.84	60.24
11200.00	1.97	231.73	11198.97	58.28 N	14.16 W	0.42	58.28
11300.00	2.63	227.43	11298.88	55.66 N	17.20 W	0.68	55.66
11400.00	2.37	233.23	11398.79	52.88 N	20.54 W	0.36	52.88
11500.00	2.36	222.08	11498.70	50.11 N	23.57 W	0.46	50.11
11519.00	2.38	217.79	11517.69	49.51 N	24.07 W	0.94	49.51

All data is in feet unless otherwise stated.
Coordinates from slot #1 and TVD from rotary table.
Bottom hole distance is 55.06 on azimuth 334.07 degrees from wellhead.
Vertical section is from N 0.00 E 0.00 on azimuth 0.00 degrees.
Calculation uses the minimum curvature method.
Presented by Baker Hughes INTEQ

Energen Resources
WLSU #19,slot #1
UNKNOWN,LEA COUNTY, NEW MEXICO

SURVEY LISTING Page 4
Your ref : GYRO
Last revised : 30-May-2002

NO PROPOSAL

Energen Resources
WLSU #19
slot #1
UNKNOWN
LEA COUNTY, NEW MEXICO

SURVEY LISTING

by
Baker Hughes INTEQ

Your ref : MWD
Our ref : svy1957
License :

Date printed : 20-Jun-2002
Date created : 24-May-2002
Last revised : 20-Jun-2002

Field is centred on n33 30 0.000,w103 30 0
Structure is centred on n33 0 0.000,w103 30 0

Slot location is n33 0 0.000,w103 30 0.000
Slot Grid coordinates are N 728524.779, E 755489.740
Slot local coordinates are 0.00 N 0.00 E

Projection type: mercator - New Mexico East (3001), Spheroid: Clarke - 1866

Reference North is True North

Energen Resources
WLSU #19, slot #1
UNKNOWN, LEA COUNTY, NEW MEXICO

SURVEY LISTING Page 1
Your ref : MWD
Last revised : 20-Jun-2002

Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	RECTANGULAR COORDINATES		Dogleg Deg/100ft	Vert Sect
0.00	0.00	0.00	0.00	0.00 N	0.00 E	0.00	0.00
100.00	0.75	347.80	100.00	0.64 N	0.14 W	0.75	-0.47
200.00	0.43	5.55	199.99	1.66 N	0.24 W	0.37	-1.13
300.00	0.50	9.37	299.99	2.47 N	0.13 W	0.08	-1.49
400.00	0.27	84.63	399.99	2.92 N	0.17 E	0.51	-1.49
500.00	0.35	80.23	499.99	3.00 N	0.70 E	0.08	-1.08
600.00	0.24	25.04	599.98	3.24 N	1.09 E	0.29	-0.90
700.00	0.31	87.99	699.98	3.43 N	1.45 E	0.29	-0.71
800.00	0.15	123.96	799.98	3.37 N	1.83 E	0.21	-0.36
900.00	0.06	95.69	899.98	3.29 N	1.99 E	0.10	-0.18
1000.00	0.13	132.80	999.98	3.21 N	2.12 E	0.09	-0.02
1100.00	0.28	74.14	1099.98	3.19 N	2.45 E	0.24	0.26
1200.00	0.22	35.74	1199.98	3.42 N	2.80 E	0.18	0.42
1300.00	0.23	12.00	1299.98	3.78 N	2.96 E	0.10	0.36
1400.00	0.17	1.01	1399.98	4.13 N	3.00 E	0.07	0.20
1500.00	0.26	327.88	1499.98	4.47 N	2.89 E	0.15	-0.09
1600.00	0.29	339.18	1599.98	4.90 N	2.68 E	0.06	-0.50
1700.00	0.28	347.97	1699.98	5.38 N	2.54 E	0.04	-0.88
1800.00	0.69	354.44	1799.97	6.22 N	2.43 E	0.41	-1.44
1900.00	1.05	359.02	1899.96	7.73 N	2.35 E	0.37	-2.34
2000.00	1.25	357.97	1999.94	9.73 N	2.30 E	0.20	-3.50
2100.00	1.39	353.46	2099.91	12.03 N	2.12 E	0.18	-4.93
2200.00	1.52	348.51	2199.88	14.53 N	1.72 E	0.18	-6.65
2300.00	1.68	342.64	2299.84	17.23 N	1.02 E	0.23	-8.74
2400.00	1.72	342.12	2399.80	20.06 N	0.12 E	0.04	-11.06
2500.00	1.61	347.32	2499.76	22.86 N	0.65 W	0.19	-13.26
2600.00	1.42	3.61	2599.72	25.48 N	0.88 W	0.47	-14.91
2700.00	1.46	8.49	2699.69	27.98 N	0.61 W	0.13	-16.08
2800.00	1.34	7.07	2799.66	30.41 N	0.28 W	0.13	-17.15
2900.00	1.03	5.82	2899.64	32.46 N	0.05 W	0.32	-18.10
3000.00	0.69	10.81	2999.63	33.94 N	0.16 E	0.35	-18.75
3100.00	0.63	24.51	3099.62	35.03 N	0.50 E	0.17	-19.07
3200.00	0.46	0.68	3199.62	35.93 N	0.73 E	0.28	-19.38
3300.00	0.23	359.50	3299.61	36.54 N	0.73 E	0.24	-19.72
3400.00	0.13	82.21	3399.61	36.75 N	0.84 E	0.25	-19.75
3500.00	0.26	100.84	3499.61	36.72 N	1.18 E	0.15	-19.45
3600.00	0.29	101.11	3599.61	36.63 N	1.65 E	0.02	-19.00
3700.00	0.30	84.16	3699.61	36.61 N	2.16 E	0.09	-18.57
3800.00	0.47	93.84	3799.61	36.61 N	2.84 E	0.18	-18.00
3900.00	0.37	84.52	3899.61	36.61 N	3.57 E	0.13	-17.40
4000.00	0.31	95.59	3999.60	36.62 N	4.16 E	0.09	-16.91
4100.00	0.38	140.63	4099.60	36.34 N	4.64 E	0.27	-16.36
4200.00	0.41	126.44	4199.60	35.87 N	5.13 E	0.10	-15.69
4300.00	0.21	159.44	4299.60	35.49 N	5.48 E	0.26	-15.19
4400.00	0.12	227.95	4399.60	35.25 N	5.47 E	0.20	-15.07
4500.00	0.13	304.25	4499.60	35.24 N	5.30 E	0.15	-15.20
4600.00	0.30	326.33	4599.60	35.52 N	5.06 E	0.19	-15.55
4700.00	0.41	314.49	4699.60	35.98 N	4.66 E	0.14	-16.14
4800.00	0.50	309.72	4799.59	36.51 N	4.07 E	0.10	-16.93
4900.00	0.39	294.03	4899.59	36.93 N	3.43 E	0.16	-17.70

All data is in feet unless otherwise stated.
Coordinates from slot #1 and TVD from rotary table.
Bottom hole distance is 1484.54 on azimuth 123.85 degrees from wellhead.
Vertical section is from S 0.00 E 0.00 on azimuth 123.80 degrees.
Calculation uses the minimum curvature method.
Presented by Baker Hughes INTEQ

Energen Resources
WLSU #19, slot #1
UNKNOWN, LEA COUNTY, NEW MEXICO

SURVEY LISTING Page 2
Your ref : MWD
Last revised : 20-Jun-2002

Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	RECTANGULAR COORDINATES		Dogleg Deg/100ft	Vert Sect
5000.00	0.32	335.71	4999.59	37.32 N	3.00 E	0.26	-18.27
5100.00	0.52	347.19	5099.58	38.03 N	2.78 E	0.22	-18.84
5200.00	0.28	332.35	5199.58	38.69 N	2.57 E	0.26	-19.39
5300.00	0.43	320.84	5299.58	39.20 N	2.22 E	0.17	-19.96
5400.00	0.84	343.48	5399.57	40.20 N	1.77 E	0.47	-20.89
5500.00	1.43	352.17	5499.55	42.14 N	1.39 E	0.61	-22.29
5600.00	1.39	344.46	5599.52	44.54 N	0.89 E	0.19	-24.03
5700.00	1.41	344.16	5699.49	46.89 N	0.23 E	0.02	-25.89
5800.00	1.44	343.74	5799.46	49.28 N	0.45 W	0.03	-27.79
5900.00	1.43	340.91	5899.43	51.67 N	1.22 W	0.07	-29.75
6000.00	1.50	341.95	5999.40	54.09 N	2.03 W	0.07	-31.78
6100.00	1.49	345.95	6099.36	56.60 N	2.75 W	0.10	-33.77
6200.00	1.57	352.05	6199.33	59.21 N	3.25 W	0.18	-35.65
6300.00	1.52	355.46	6299.29	61.90 N	3.55 W	0.10	-37.38
6400.00	1.33	354.90	6399.26	64.38 N	3.76 W	0.20	-38.94
6500.00	1.05	345.98	6499.24	66.42 N	4.08 W	0.34	-40.34
6600.00	1.01	335.29	6599.22	68.10 N	4.67 W	0.20	-41.77
6700.00	1.01	324.48	6699.21	69.62 N	5.55 W	0.19	-43.34
6800.00	0.88	326.94	6799.20	70.98 N	6.48 W	0.14	-44.87
6900.00	0.73	321.70	6899.19	72.12 N	7.29 W	0.17	-46.18
7000.00	0.72	318.65	6999.18	73.09 N	8.10 W	0.04	-47.39
7100.00	0.85	316.94	7099.17	74.10 N	9.02 W	0.14	-48.72
7200.00	0.83	327.13	7199.16	75.25 N	9.92 W	0.15	-50.11
7300.00	0.72	312.37	7299.15	76.28 N	10.78 W	0.22	-51.39
7334.00	0.70	321.20	7333.15	76.59 N	11.07 W	0.33	-51.80
7365.00	0.60	324.70	7364.14	76.87 N	11.28 W	0.35	-52.14
7397.00	0.30	142.30	7396.14	76.94 N	11.33 W	2.81	-52.21
7429.00	2.20	141.60	7428.13	76.39 N	10.89 W	5.94	-51.55
7460.00	3.10	145.80	7459.10	75.23 N	10.05 W	2.97	-50.20
7492.00	3.10	139.80	7491.05	73.86 N	9.01 W	1.01	-48.57
7524.00	3.80	138.80	7523.00	72.40 N	7.75 W	2.20	-46.71
7556.00	4.00	133.50	7554.92	70.83 N	6.24 W	1.29	-44.59
7588.00	4.80	132.10	7586.83	69.16 N	4.44 W	2.52	-42.16
7620.00	4.70	135.20	7618.72	67.34 N	2.52 W	0.86	-39.55
7651.00	5.40	127.20	7649.60	65.55 N	0.46 W	3.20	-36.85
7683.00	5.40	121.90	7681.46	63.85 N	2.01 E	1.56	-33.85
7715.00	6.50	121.50	7713.28	62.11 N	4.84 E	3.44	-30.53
7747.00	7.30	121.50	7745.05	60.10 N	8.11 E	2.50	-26.69
7779.00	7.60	123.30	7776.78	57.87 N	11.62 E	1.19	-22.54
7811.00	8.30	123.30	7808.47	55.44 N	15.31 E	2.19	-18.12
7843.00	8.40	121.50	7840.13	52.95 N	19.24 E	0.87	-13.47
7875.00	8.90	121.20	7871.77	50.45 N	23.35 E	1.57	-8.66
7906.00	9.70	121.90	7902.36	47.83 N	27.62 E	2.61	-3.66
7938.00	9.90	126.50	7933.90	44.77 N	32.12 E	2.52	1.79
7970.00	10.30	127.90	7965.40	41.37 N	36.59 E	1.47	7.39
8002.00	10.60	128.20	7996.87	37.80 N	41.16 E	0.95	13.17
8034.00	11.30	126.80	8028.29	34.10 N	45.98 E	2.34	19.24
8066.00	12.00	127.50	8059.63	30.19 N	51.13 E	2.23	25.69
8098.00	11.90	126.80	8090.93	26.19 N	56.41 E	0.55	32.30
8130.00	12.50	128.60	8122.21	22.06 N	61.76 E	2.22	39.05

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Coordinates from slot #1 and TVD from rotary table.
Bottom hole distance is 1484.54 on azimuth 123.85 degrees from wellhead.
Vertical section is from S 0.00 E 0.00 on azimuth 123.80 degrees.
Calculation uses the minimum curvature method.
Presented by Baker Hughes INTEQ

Energen Resources
WLSU #19, slot #1
UNKNOWN, LEA COUNTY, NEW MEXICO

SURVEY LISTING Page 3
Your ref : MWD
Last revised : 20-Jun-2002

Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	R E C T A N G U L A R C O O R D I N A T E S		Dogleg Deg/100ft	Vert Sect
8162.00	13.10	128.90	8153.42	17.62 N	67.29 E	1.89	46.11
8194.00	13.40	128.20	8184.56	13.05 N	73.02 E	1.06	53.42
8226.00	14.10	128.90	8215.65	8.31 N	78.97 E	2.25	61.00
8258.00	14.60	129.60	8246.65	3.29 N	85.11 E	1.65	68.90
8290.00	15.20	129.60	8277.57	1.96 S	91.45 E	1.88	77.08
8321.00	15.80	130.70	8307.44	7.30 S	97.78 E	2.16	85.32
8353.00	16.20	131.70	8338.20	13.11 S	104.42 E	1.52	94.06
8385.00	16.90	130.70	8368.88	19.11 S	111.28 E	2.36	103.10
8417.00	17.10	131.00	8399.48	25.23 S	118.35 E	0.68	112.39
8449.00	18.00	127.90	8429.99	31.36 S	125.81 E	4.05	121.99
8481.00	18.10	128.90	8460.42	37.51 S	133.58 E	1.02	131.87
8513.00	18.80	130.00	8490.77	43.95 S	141.40 E	2.44	141.95
8545.00	19.10	131.40	8521.04	50.73 S	149.27 E	1.70	152.26
8577.00	19.60	131.00	8551.23	57.71 S	157.25 E	1.62	162.78
8609.00	20.10	131.40	8581.33	64.87 S	165.43 E	1.62	173.55
8641.00	20.60	132.80	8611.33	72.33 S	173.68 E	2.18	184.56
8672.00	20.90	131.00	8640.32	79.66 S	181.86 E	2.27	195.44
8736.00	21.50	131.00	8699.99	94.85 S	199.32 E	0.94	218.40
8768.00	21.50	131.00	8729.76	102.54 S	208.17 E	0.00	230.03
8800.00	21.60	130.70	8759.53	110.23 S	217.06 E	0.47	241.70
8832.00	22.10	128.60	8789.23	117.83 S	226.24 E	2.90	253.54
8896.00	22.10	127.80	8848.52	132.72 S	245.16 E	0.47	277.55
8960.00	21.50	125.80	8907.95	146.95 S	264.18 E	1.49	301.28
9031.00	21.60	124.40	8973.99	161.95 S	285.52 E	0.74	327.35
9095.00	22.80	127.20	9033.24	176.10 S	305.12 E	2.50	351.51
9158.00	21.90	125.10	9091.51	190.24 S	324.45 E	1.91	375.44
9222.00	21.80	127.50	9150.91	204.34 S	343.65 E	1.40	399.24
9286.00	21.30	126.80	9210.44	218.53 S	362.38 E	0.88	422.70
9350.00	21.60	127.50	9270.01	232.67 S	381.04 E	0.62	446.07
9414.00	21.80	125.70	9329.47	246.77 S	400.03 E	1.09	469.70
9478.00	21.80	125.70	9388.89	260.64 S	419.33 E	0.00	493.45
9541.00	21.10	128.90	9447.53	274.59 S	437.66 E	2.16	516.44
9573.00	20.80	127.50	9477.42	281.67 S	446.65 E	1.82	527.85
9637.00	21.60	125.80	9537.09	295.48 S	465.22 E	1.58	550.96
9669.00	21.20	125.80	9566.88	302.31 S	474.69 E	1.25	562.63
9733.00	22.20	126.50	9626.34	316.27 S	493.80 E	1.61	586.27
9796.00	22.70	126.10	9684.57	330.51 S	513.18 E	0.83	610.31
9860.00	22.10	127.20	9743.74	345.06 S	532.75 E	1.14	634.67
9924.00	23.00	127.20	9802.85	359.90 S	552.30 E	1.41	659.17
9988.00	22.30	125.10	9861.91	374.45 S	572.20 E	1.67	683.79
10052.00	22.10	126.80	9921.17	388.64 S	591.77 E	1.05	707.95
10116.00	21.50	125.80	9980.59	402.71 S	610.92 E	1.10	731.69
10180.00	21.30	124.80	10040.18	416.21 S	629.98 E	0.65	755.04
10244.00	21.70	124.40	10099.72	429.53 S	649.29 E	0.67	778.49
10308.00	21.70	125.40	10159.19	443.06 S	668.70 E	0.58	802.15
10371.00	21.80	124.70	10217.70	456.47 S	687.81 E	0.44	825.49
10435.00	21.90	125.10	10277.11	470.10 S	707.34 E	0.28	849.30
10499.00	22.10	124.70	10336.45	483.82 S	727.01 E	0.39	873.27
10563.00	22.20	125.40	10395.72	497.67 S	746.76 E	0.44	897.40
10627.00	22.60	126.10	10454.89	511.92 S	766.55 E	0.75	921.77

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Vertical section is from S 0.00 E 0.00 on azimuth 123.80 degrees.
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Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	R E C T A N G U L A R C O O R D I N A T E S		Dogleg Deg/100ft	Vert Sect
10690.00	21.60	127.20	10513.27	526.07 S	785.57 E	1.72	945.44
10754.00	21.80	126.80	10572.73	540.31 S	804.47 E	0.39	969.07
10786.00	21.30	127.20	10602.49	547.38 S	813.86 E	1.63	980.81
10818.00	21.50	126.50	10632.29	554.38 S	823.20 E	1.01	992.47
10850.00	21.50	127.20	10662.06	561.42 S	832.58 E	0.80	1004.18
10882.00	22.60	124.00	10691.72	568.40 S	842.35 E	5.09	1016.18
10914.00	22.40	123.30	10721.28	575.19 S	852.55 E	1.04	1028.43
10946.00	22.50	124.00	10750.86	581.96 S	862.72 E	0.89	1040.65
10978.00	22.70	123.00	10780.40	588.74 S	872.97 E	1.35	1052.94
11009.00	23.00	122.20	10808.97	595.23 S	883.11 E	1.39	1064.98
11041.00	22.60	122.30	10838.47	601.85 S	893.60 E	1.26	1077.37
11073.00	22.30	120.50	10868.04	608.21 S	904.03 E	2.34	1089.58
11105.00	21.20	124.00	10897.77	614.53 S	914.06 E	5.31	1101.43
11137.00	21.00	124.40	10927.62	621.01 S	923.59 E	0.77	1112.95
11169.00	21.40	126.10	10957.46	627.68 S	933.04 E	2.29	1124.52
11201.00	21.70	124.40	10987.22	634.47 S	942.63 E	2.16	1136.27
11233.00	22.30	124.40	11016.89	641.24 S	952.52 E	1.87	1148.25
11265.00	22.00	124.00	11046.53	648.02 S	962.50 E	1.05	1160.32
11297.00	21.40	122.60	11076.26	654.52 S	972.39 E	2.48	1172.15
11329.00	21.30	122.30	11106.06	660.77 S	982.22 E	0.46	1183.79
11361.00	21.50	120.50	11135.86	666.85 S	992.19 E	2.15	1195.46
11393.00	21.70	120.10	11165.61	672.79 S	1002.36 E	0.78	1207.22
11425.00	22.10	119.10	11195.30	678.69 S	1012.74 E	1.71	1219.12
11457.00	22.30	119.80	11224.93	684.63 S	1023.26 E	1.04	1231.18
11489.00	22.50	120.50	11254.51	690.76 S	1033.81 E	1.04	1243.34
11521.00	22.40	122.60	11284.09	697.15 S	1044.22 E	2.53	1255.55
11552.00	22.20	122.60	11312.77	703.49 S	1054.13 E	0.65	1267.31
11584.00	22.40	122.60	11342.38	710.03 S	1064.36 E	0.63	1279.45
11616.00	22.30	123.00	11371.97	716.62 S	1074.59 E	0.57	1291.62
11648.00	22.20	124.40	11401.59	723.34 S	1084.67 E	1.69	1303.74
11680.00	22.40	123.30	11431.20	730.11 S	1094.75 E	1.45	1315.88
11712.00	21.70	123.70	11460.86	736.74 S	1104.77 E	2.24	1327.89
11744.00	21.70	123.00	11490.59	743.24 S	1114.65 E	0.81	1339.72
11776.00	22.00	124.40	11520.29	749.85 S	1124.56 E	1.88	1351.63
11808.00	22.10	124.40	11549.95	756.64 S	1134.47 E	0.31	1363.64
11840.00	22.90	124.70	11579.51	763.58 S	1144.56 E	2.53	1375.89
11904.00	23.50	125.10	11638.34	778.01 S	1165.24 E	0.97	1401.10
11968.00	23.00	125.40	11697.14	792.59 S	1185.87 E	0.80	1426.35
12031.00	21.80	125.80	11755.39	806.56 S	1205.39 E	1.92	1450.35
12078.00	21.20	126.50	11799.12	816.72 S	1219.30 E	1.39	1467.56
12125.00	21.20	126.50	11842.94	826.83 S	1232.96 E	0.00	1484.53 PROJ TO TD

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Energen Resources
WLSU #19, slot #1
UNKNOWN, LEA COUNTY, NEW MEXICO

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Your ref : MWD
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				<u>Comments in wellpath</u>
MD	TVD	Rectangular Coords.		Comment
12125.00	11842.94	826.83 S	1232.96 E	PROJ TO TD

NO PROPOSAL